

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,924,730 B1
DATED : August 2, 2005
INVENTOR(S) : Evans

Page 1 of 2

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 12,

Line 58, please insert the following after "...460 are only one mechanism by which the...":

-- automatic brake release can be implemented. The linkage could be any of the variety of linkages that could incorporate levers, sliding mechanisms, or gears, for example.

Figure 6B is a rear plan view of the hand crank hoist 370 of Figure 6A and clarifies specific structure of the guides 450, 455. As shown, the guides 450, 455 comprise channels 465, 470 through which the endless element 380 passes. In this way inadvertent falling out of the endless element 380 from the guides 450, 455 is prevented, and a point of application of a force on the bell crank 435 at a position outwardly of vertical lines tangent to the input pulley 390 is assured. Thus, pulling vertically downward on the endless element 380 will always rotate the bell crank 435.

Figure 7 depicts a method of controlling a fire door control system in a normal running mode with no alarm condition present. As shown, the fire door system has a starting point with the door in an open condition at 475. A first step 480 includes pressing a close button. A second step 485, which is optional and is only implemented in some configurations of the system and method, includes initiating an audio and/or visual alert and a time delay before closing the door. This is beneficial for notifying persons in the vicinity that the door will be closing and for giving them a chance to get away from the door. A third step 490 includes closing the door. During the door closing condition, a controller awaits a signal from a safety sensor such as an edge trip sensor in a lower edge of a rollable door. Thus, a forth step 495 includes checking if a safety sensor has been tripped. If the safety sensor is tripped during the closing condition of the door an additional step 500 including reversing the door and moving the door to a fully open position is effected. In the fully opened condition 475 the door is ready for additional active input. On the other hand, if the safety edge is not tripped, the door continues to close until the door closed condition 505 is reached. In the door closed condition the door control system is ready for the fifth step 510 of opening the door by pressing an open button.

It is to be understood that in the method of controlling a fire door system under normal running conditions with no alarm condition present, a stop button could be pressed at any time to stop the door in its current position. In accordance with this method, the edge safety sensor is not active when the door is in a door opening condition. It is to be understood that the controller could be implemented as a mechanical, chemical, electrical, or combination controller. On the other hand, the controller for the present method is typically an electronic and/or electro-mechanical controller. Relatedly, the safety sensor can be implemented as an electro-mechanical contact strip run along a lower edge of the fire door so that when the lower edge contacts an obstruction between the fully up and the fully down positions, the contact strip is pressed and a signal is sent to the controller. Alternatively, the safety sensor can include one or more of a motion sensor, an optical sensor of the type that incorporates

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Column 12 (cont'd).

lasers or infrared beams, or a transponder type sensor. The safety sensor can be one of a plurality of safety sensors that can be located at positions other than on a lower edge of the fire door. These safety sensors are to be incorporated on doors that have power drive mechanisms, hand crank hoist drive mechanisms, as well as doors that are raised by hand.


In accordance with the foregoing method of controlling a fire door control system for example, the fire door system can receive an alarm condition at any time during a normal running mode. Figures 8A and 8B are a flow chart depicting the method of controlling the fire door control system when an alarm condition 512 is received in the controller as shown in an upper portion of Figure 8A. When according to step 512 an alarm condition signal is received in the controller, the controller initiates a step 515 of checking to see if the door is open. If the door is open, the controller implements a step 520 of checking to see if the hand hoist is engaged. If the door is closed, then the controller implements a step 525 of initiating an audio and/or visual alert that the door is closed, as shown near the bottom of Figure 8B. After the alert indicating that the fire door is closed, the system is ready for a step 530 of removing the alarm condition and resetting the system. Thus, step 530 can represent two steps. The first step can be that of removing an alarm condition, such as in a fire alarm system in a building where the fire --.

Column 13, line 33 to Column 14, line 47.

Please delete beginning with "...automatic brake release can..." and ending with "...alarm system in a building where the fire...".

Signed and Sealed this

Eighteenth Day of October, 2005

A handwritten signature in black ink, reading "Jon W. Dudas". The signature is stylized with a large, looped initial "J" and a cursive "Dudas".

JON W. DUDAS
Director of the United States Patent and Trademark Office